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Test 1423: Ford 3610 (8x4) Diesel 8-Speed

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NEBRASKA TRACTOR TEST 1423 — FORD 3610 (8 X 4) DIESEL 8 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)	
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb		
MAXIMUM POWER AND FUEL CONSUMPTION									
* Rated Engine Speed—Two Hours (PTO Speed—600 rpm)									
42.47 (31.67)	2000	2.681 (10.149)	0.435 (0.265)	15.84 (3.121)	195 (90.7)	56 (13.3)	75 (23.9)	28.830 (97.355)	
Standard Power Take-off Speed (540 rpm)—One Hour									
40.01 (29.84)	1798	2.460 (9.312)	0.424 (0.258)	16.26 (3.204)	197 (91.7)	56 (13.3)	75 (23.9)	28.825 (97.338)	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
37.24 (27.77)	2062	2.388 (9.040)	0.442 (0.269)	15.60 (3.072)	186 (85.6)	56 (13.3)	75 (23.9)	..... .....
0.00 (0.00)	2116	0.792 (2.998)	..... .....	..... .....	166 (74.2)	57 (13.9)	75 (23.9)	..... .....
18.82 (14.03)	2086	1.535 (5.811)	0.563 (0.342)	12.26 (2.414)	170 (76.4)	56 (13.3)	74 (23.6)	..... .....
42.58 (31.75)	2000	2.706 (10.243)	0.438 (0.267)	15.74 (3.100)	194 (89.7)	57 (13.9)	76 (24.4)	..... .....
9.47 (7.06)	2100	1.135 (4.296)	0.827 (0.503)	8.34 (1.643)	166 (74.7)	57 (13.9)	75 (23.9)	..... .....
28.12 (20.97)	2074	1.975 (7.476)	0.484 (0.295)	14.24 (2.805)	173 (78.3)	57 (13.9)	76 (24.2)	..... .....
Av Av	22.70 (16.93)	2073	1.755 (6.643)	0.533 (0.324)	12.94 (2.549)	176 (79.8)	57 (13.7)	75 (24.0)	28.817 (97.310)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 5th Gear											
34.24 (25.53)	2229 (9.92)	5.76 (9.27)	1999	5.64	2.665 (10.087)	0.537 (0.326)	12.85 (2.531)	171 (77.2)	40 (4.4)	49 (9.4)	29.205 (98.621)
75% of Pull at Maximum Power—Ten Hours 5th Gear											
27.87 (20.79)	1729 (7.69)	6.05 (9.73)	2067	4.18	2.240 (8.481)	0.554 (0.337)	12.44 (2.451)	171 (77.1)	46 (7.7)	51 (10.7)	28.625 (96.662)
50% of Pull at Maximum Power—Two Hours 5th Gear											
18.90 (14.09)	1152 (5.12)	6.15 (9.90)	2077	3.00	1.795 (6.793)	0.655 (0.398)	10.53 (2.075)	168 (75.3)	45 (6.9)	55 (12.5)	28.340 (95.700)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
18.89 (14.09)	1152 (5.12)	6.15 (9.90)	1426	2.76	1.432 (5.421)	0.523 (0.318)	13.19 (2.599)	169 (75.8)	47 (8.1)	60 (15.3)	28.375 (95.818)
MAXIMUM POWER IN SELECTED GEARS											
28.87 (21.53)	4917 (21.87)	2.20 (3.54)	2057	14.79	2nd Gear			171 (77.2)	39 (3.9)	48 (8.9)	29.200 (98.604)
34.73 (25.90)	3952 (17.58)	3.30 (5.30)	1999	10.29	3rd Gear			173 (78.1)	40 (4.4)	49 (9.4)	29.200 (98.604)
35.19 (26.24)	2641 (11.75)	5.00 (8.04)	2000	6.53	4th Gear			173 (78.1)	40 (4.4)	48 (8.9)	29.240 (98.739)
35.42 (26.41)	2305 (10.25)	5.76 (9.27)	1999	5.64	5th Gear			172 (77.8)	40 (4.4)	49 (9.4)	29.200 (98.604)
35.57 (26.52)	1560 (6.94)	8.55 (13.76)	2002	3.80	6th Gear			172 (77.8)	39 (3.9)	47 (8.3)	29.250 (98.773)

Department of Agricultural Engineering

Dates of Test: March 16 to April 1, 1982

Manufacturer: FORD MOTOR COMPANY,
Ford Tractor Operations, 2500 East Maple
Road, Troy, Michigan 48084

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane No. 46.5 (rating taken from oil company's
inspection data) **Specific gravity converted to 60°/**
60° (15°/15°) 0.8284 **Fuel weight** 6.897 lbs/gal
(0.826 kg/l) **Oil SAE 30 API service classifica-**
tion SE/SF-CC/CD To motor 1.484 gal (5.617 l)
Drained from motor 1.421 gal (5.379 l) **Trans-**
mission and final drive lubricant Ford 134 fluid
Total time engine was operated 41.0 hours.

ENGINE: Make Ford Diesel **Type** three cylin-
der vertical **Serial No.** *C625475* **Crankshaft**
lengthwise **Rated rpm** 2000 **Bore and stroke** 4.4"
× 4.2" (112 mm × 107 mm) **Compression ratio**
16.3 to 1 **Displacement** 192 cu in (3147 ml) **Start-**
ing system 12 volt **Lubrication pressure** **Air**
cleaner two paper elements **Oil filter** one full
flow paper cartridge **Oil cooler** radiator for hyd-
raulic and rear axle oil **Fuel filter** one paper
element **Muffler** vertical **Cooling medium**
temperature control one thermostat.

CHASSIS: **Type** standard **Serial No.**
C681344 **Tread width** rear 60" (1525 mm) to
76" (1930 mm) front 52" (1320 mm) to 80" (2032
mm) **Wheel base** 75.8" (1925 mm) **Center of grav-**
ity (without operator or ballast, with minimum
tread, with fuel tank filled and tractor serviced for
operation) Horizontal distance forward from cen-
ter-line of rear wheels 31.3" (795 mm) Vertical dis-
tance above roadway 25.2" (640 mm) Horizontal
distance from center of rear wheel tread 0" (0 mm)
to the right/left **Hydraulic control system** direct
engine drive **Transmission** selective gear fixed
ratio **Advertised speeds mph (km/h)** first 1.7 (2.7)
second 2.5 (4.0) third 3.7 (5.9) fourth 5.4 (8.7)
fifth 6.2 (10.0) sixth 9.0 (14.4) seventh 13.1 (21.0)
eighth 19.4 (31.1) reverse 2.3 (3.7), 3.3 (5.3), 4.8
(7.7), 7.0 (11.3) **Clutch** single plate dry disc oper-
ated by foot pedal **Brakes** drum and shoe oper-
ated by two foot pedals which can be locked
together **Steering** power assist **Turning radius**
(on concrete surface with brake applied) right
117" (2.97 m) left 117" (2.97 m) (on concrete sur-
face without brake) right 129" (3.28 m) left 129"
(3.28 m) **Turning space diameter** (on concrete
surface with brake applied) right 240" (6.1 m) left
240" (6.1 m) (on concrete surface without brake)
right 267" (6.8 m) left 267" (6.8 m) **Power take-off**
540 rpm at 1798 engine rpm.

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	1999	1801	1604	1399	1199	1009
Pull—lbs (kN)	2305 (10.25)	2389 (10.63)	2528 (11.25)	2641 (11.75)	2687 (11.95)	2673 (11.89)
Increase in Pull %	0	4	10	15	17	16
Power—Hp (kW)	35.42 (26.41)	32.92 (24.55)	30.88 (23.03)	28.08 (20.94)	24.39 (18.19)	20.49 (15.28)
Speed—Mph (km/h)	5.76 (9.27)	5.17 (8.32)	4.58 (7.37)	3.99 (6.42)	3.40 (5.48)	2.87 (4.63)
Slip %	5.64	5.86	6.31	6.75	6.97	6.75

TRACTOR SOUND LEVEL WITH OUT CAB

	dB(A)
Maximum*Available Power—Two Hours	96.0
75% of Pull at Maximum Power—Ten Hours	95.5
50% of Pull at Maximum Power—Two Hours	94.5
50% of Pull at Reduced Engine Speed—Two Hours	92.0
Bystander in 7th gear	86.0

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires		
—No., size, ply & psi (kPa)	Two 16.9-24; 6; 16 (110)	Two 16.9-24; 6; 16 (110)
—Liquid (each)	685 lb (311 kg)	None
—Cast Iron (each)	280 lb (127 kg)	None
Front Tires		
—No., size, ply & psi (kPa)	Two 6.50-16; 6; 36 (250)	Two 6.50-16; 6; 36 (250)
—Liquid (each)	None	None
—Cast Iron (each)	58 lb (26 kg)	None
Height of Drawbar	18 in (455 mm)	18 in (455 mm)
Static Weight with Operator—Rear	4540 lb (2059 kg)	2610 lb (1184 kg)
—Front	1800 lb (817 kg)	1685 lb (764 kg)
—Total	6340 lb (2876 kg)	4295 lb (1948 kg)

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 141°F (60.3°C). Five gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1423**.

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
W. E. SPLINTER
L. L. BASHFORD
Board of Tractor Test Engineers



Ford 3610 (8 X 4) Diesel

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The Agricultural Experiment Station
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